

## ABSTRACT OF THE DISCLOSURE

The invention includes atomic layer deposition methods of depositing an oxide on a substrate. In one implementation, a substrate is positioned within a deposition chamber. A first species is chemisorbed onto the substrate to form a first species monolayer within the deposition chamber from a gaseous precursor. The chemisorbed first species is contacted with remote plasma oxygen derived at least in part from at least one of  $O_2$  and  $O_3$  and with remote plasma nitrogen effective to react with the first species to form a monolayer comprising an oxide of a component of the first species monolayer. The chemisorbing and the contacting with remote plasma oxygen and with remote plasma nitrogen are successively repeated effective to form porous oxide on the substrate. Other aspects and implementations are contemplated.